REMARKS

A. Status of the Pending Application

Claims 1-18, 20-27, and 29-36 are pending in the application. Claims 19 and 28 have been cancelled. Claims 11-16 have been withdrawn from consideration. Claims 1, 8, and 17 have been amended. Claim 27 has been objected to. Claims 1 and 3-8 stand rejected under 35 U.S.C. § 102(b) as unpatentable over *Lee* (U.S. Patent Application No. 2002/0163602). Claims 17 stands rejected under § 102(e) as unpatentable over *Kang* (U.S. Patent No. 6,900,872). Claims 17 and 26 stand rejected under § 103(a) as unpatentable over *Ko* (U.S. Patent No. 6,285,418) in view of *Dohjo, et al.* (U.S. Patent No. 6,078,366). Claims 1-3 and 6 stand rejected under § 103(a) as unpatentable over *Kim et al.* (Korean Patent Document No. P1999-0074559) in view of *Dohjo, et al.*

B. Objections to the Specification

Applicants have amended the Title to "Liquid crystal display device with protruding gate electrode". Accordingly, the Examiner's objection has been overcome and notice to that effect is earnestly solicited.

C. Objections to the Claims

Applicant has amended claim 27 to correct the informality "changes a capacitance" to the correct form "changes in a capacitance." Applicants respectfully request that the Examiner enter the above-described amendment to claim 27 and withdraw the outstanding objection.

D. Prior Art Rejections

1. Claims 1 and 3-8 are patentable over *Lee* (U.S. Patent Application No. 2002/0163602)

Claims 1 and 3-8 stand rejected under 35 U.S.C. § 102(b) as unpatentable over *Lee* (U.S. Patent Application No. 2002/0163602). The Examiner alleges that Lee discloses, inter alia, a gate line [32] with a portion bent angularly and inwardly, a gate electrode [36] projecting from the gate line, and a data line [34] overlapping some of the bent portion of the gate line. Applicants respectfully disagree.

Lee discloses a gate line [32] extending from the right-hand side of Fig. 3 to the left-hand side of Fig. 3, in one direction, and a data line [34] extending in a direction perpendicular to the gate line. Lee also discloses a gate electrode [36] projecting from the gate line. However, because the gate electrode in Lee is a distinct structure from the gate line, Lee fails to disclose a data line overlapping some of the bent portion of the gate line.

Assuming for argument sake that Lee discloses a gate line with a portion bent angularly and inwardly, which Applicants disagree with, there is no bent portion disclosed by Lee in the region where the data line overlaps the gate line. The angular portions overlapped by the data line illustrated in Fig. 3 of Lee belong to the *gate electrode*, not the gate line, as required by the claims. In Lee, the gate electrode begins at the first right angle disposed near the left-hand side of Fig. 3, on the upper boundary of the gate line. The gate electrode then continues upward from the gate line, bounded by the line segments extending up and outward from the gate line and then rejoining the upper boundary of the gate line at the obtuse angle opposite the aforementioned right angle. Therefore, the gate line is not bent inwardly or angularly at any point where the data line overlaps the gate line in Lee.

Regarding claim 8, *Lee* fails to disclose a drain electrode formed at a fixed interval from the source electrode, the drain electrode overlapped with the bent portion of the gate electrode. The drain electrode 40 in *Lee* overlaps the gate electrode 36 along a straight portion of the gate electrode 36. Therefore *Lee* fails to satisfy all the features of claim 8.

For all of these reasons, claims 1 and 8, and claims 2-7 and 9-10 depending therefrom, should be allowed over *Lee* and notice to that effect is earnestly solicited.

2. Claim 17 is not anticipated by Kang (U.S. Pat. No. 6,900,872)

Claim 17 stands rejected under 35 U.S.C. § 102(e) as unpatentable over *Kang* (U.S. Pat. No. 6,900,872). As suggested by the Examiner, enclosed herewith this response is a certified translation of Applicants' priority document, Korean Patent Application No. 2002-0087770, filed December 31, 2002. This priority document perfects a filing date prior to the March 14, 2003 filing date of *Kang*.

In an Advisory Action mailed June 22, 2006, the Examiner indicated that the rejection of claim 17 in view of Kang (U.S. Pat. No. 6,900,872) would be maintained until support for claim 17 is established in the certified translation of the applicants' priority document.

Fig. 5C of the certified translation of the priority document shows an LCD with a substrate, a gate line (41) arranged in one direction on the substrate, a gate electrode (41a) projecting from a first side of the gate line, a gate insulating layer disposed on the substrate, a data line (42) perpendicular to the gate line, thereby defining a pixel region, a source electrode (42a) projecting from the data line, a drain electrode (42b) on the gate insulating layer (see Certified Translation, at p. 5, ll. 4-5) at a fixed interval from the source electrode, an active layer (43) below the data line, the source electrode and the drain electrode, and a pixel electrode (45) in the pixel region, wherein a notch (see region "C") is formed in a boundary of a second side of

the gate line opposing the first side, and disposed between an edge of the gate electrode and an edge of the data line, such that a length of the boundary where a portion of the notch overlaps the data line is greater than a width of the data line.

Because the priority date of the certified translation of the Applicants' priority document is before the filing date of Kang, and the priority document provides support for claim 17, Applicants respectfully requests withdrawal of the rejection of claims 17 under 102(e).

3. Claims 17 and 26 are patentable over Ko et al. (U.S. 6,285,418) in view of Dohjo et al. (U.S. 6,078,366) under § 103(a)

Claims 17 and 26 stands rejected under § 103(a) over *Ko et al.* (U.S. 6,285,418) in view of *Dohjo et al.* (U.S. 6,078,366). Claim 17 is amended to further describe the location of the notch formed in the second side of the gate line as follows: "where the gate electrode is adjacent the data line."

The *Ko-Dohjo* combination discloses an LCD with, *inter alia*, a gate line having an indentation on the gate line (see *Ko et al.* Fig. 3). As the Examiner suggests in the previous Office Action, *Ko et al.* does not disclose a gate having a notch formed in a boundary of a second side of the gate line opposing the first side, and disposed between an edge of the gate electrode and an edge of the data line, such that a length of the boundary where a portion of the notch overlaps the data line, is greater than a width of the data line, and where the gate electrode is adjacent the data line. Per the Examiner's suggestion in Section 3- Response to Arguments from the Office Action mailed March 8, 2006, Applicants have amended claim 17 as suggested to overcome the rejection in view of *Ko et al.*

Accordingly, *Ko et al.* and *Dohjo et al.*, even if properly combined, fail to disclose or suggest all of the limitations of amended claim 17, and the Examiner has therefore failed to make out a prima facie case of non-obviousness (see MPEP 2143.01).

Claim 26 depends from Claim 17. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 17 and 26 under § 103(a).

4. Claims 1-3 and 6 are patentable over Kim et al (Korean Patent No. P1999-0074559) in view of Dohjo et al. (U.S. Patent No. 6,078, 366)

Claims 1-3 and 6 stand rejected under 35 U.S.C. § 103(a) over Kim et al (Korean Patent No. P1999-0074559) in view of Dohjo et al. (U.S. Patent No. 6,078, 366). Claim 1 has been amended to describe a gate line of an LCD device as follows: "a gate line arranged in one direction on the substrate and having a predetermined portion bent angularly and inwardly, wherein the predetermined bent portion has substantially straight segments."

The *Kim-Dohjo* combination discloses an LCD device with a gate line having sinuous or wavy segments along the gate line (see Kim et al. Fig. 2, inset). However, the *Kim-Dohjo* combination does not disclose or teach a gate line arranged in one direction on the substrate and having a predetermined portion bent angularly and inwardly, wherein the predetermined bent portion has substantially straight segments. While the Examiner asserts that *Kim et al.* discloses a gate line having a predetermined portion bent angularly and inwardly, because the wavy segments disclosed in Fig. 2 meet the straight segments at an angle, *Kim et al.* in combination with *Dohjo et al.* nowhere discloses a gate line with a bent portion having substantially straight segments.

Accordingly, *Kim et al.* and *Dohjo et al.*, even if properly combined, fail to disclose or suggest all of the limitations of claim 1, and the Examiner has therefore failed to make out a prima facie case of non-obviousness (see MPEP 2143.01).

Claims 2-3 and 6 depend from Claim 1. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 1-3 and 6 under § 103(a).

E. Allowable Subject Matter

Applicant gratefully acknowledges that the Examiner would allow claims 9-10, 18, and 20-25 if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

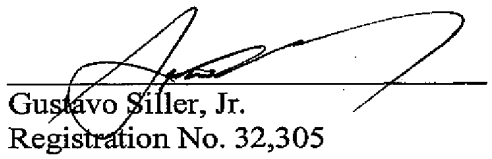
F. Allowed Claims

Applicant gratefully acknowledges that the Examiner has allowed claims 27 and 29-36.

E. Conclusion

Assignee respectfully submits that the pending claims are patentable for all of the reasons set forth herein, and therefore respectfully requests withdrawal of the pending rejections and allowance of the claims. The Examiner is invited to contact the undersigned Attorney via telephone if the Attorney can answer any of the Examiner's questions, comments, or concerns.

Respectfully submitted,



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